

Communication Control Apparatus and Method for Searching an Internet Protocol Address

Abstract of the Invention

A communication control apparatus and method for improving the search process for determining a transfer route for a packet received based on search information is described. The search information is associated with a tree structure. A mask prefix is associated with at least one entry, each entry including information on the mask length of a mask prefix associated therewith and a sort key. Each entry is assigned to a node in the tree structure according to a sorting order. Each node is linked to a different node at the next lower hierarchy via a branch based on the entry of the node. An extracting means 26 extracts a destination address of the packet received. Search means 27 searches a search target node 28 specified by a search control means 29 for an entry having information on best matched prefix of the extracted address. After completion of the node-by-node search process, a route determining means 30 determines a transfer route for the packet received based on the longest prefix amongst the most appropriate prefixes of all the current search target nodes.

Selected Drawing: 5